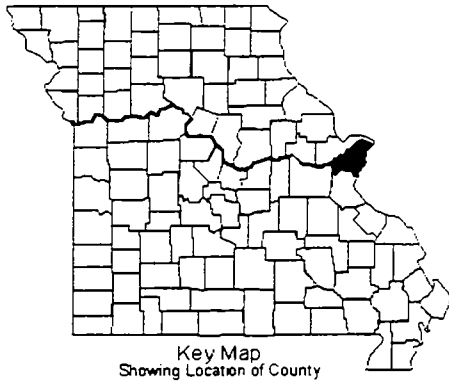
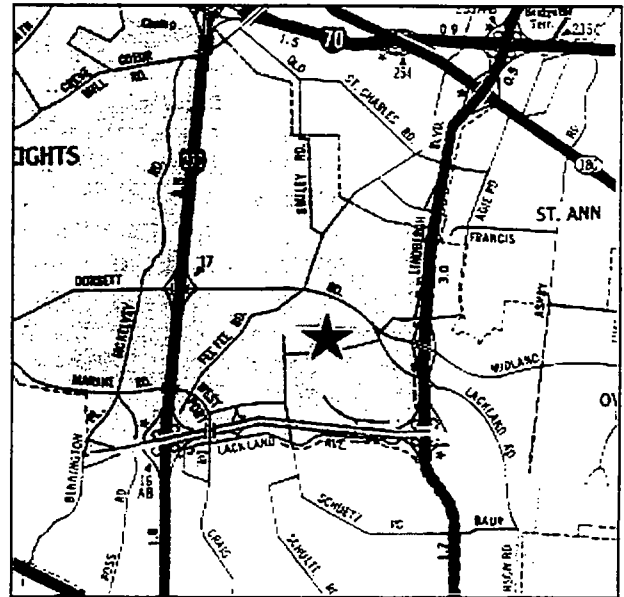


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Chevron Chemical Company



Site: Chevron Chem
 ID #: Mo D006272355
 Break: 17.7
 Other: N/D



Classification: Class IV, Priority 7

Site Name: Chevron Chemical Company

Address: 2497 Adie Road, Maryland Heights, Missouri, SW 1/4, SE 1/4, Sec. 23, T. 46N, R. 5E, St. Louis County, Creve Coeur Quadrangle

Waste Type: Pesticides and Arsenic

Quantity: Not determined.

Site Description:

The site is a former pesticide/fertilizer formulation plant that had been in operation for over 30 years. The site is located in a light industrial area in the Fee Fee Creek watershed. Fire debris contaminated with pesticides were buried on-site in unlined pits in the 1950's. This area is currently located under buildings and is not accessible. A change of land use was requested and approved, to allow for use of the facility as warehouse space for a telephone recycling operation and a publishing business. Neither business will impact or influence current site conditions. The entire property is listed on the *Registry*.

Present Property Owner: Chevron Chemical Company

Lead Agency: EPA

Environmental Problems Related to Site:

Pesticides have been detected in the soil and shallow groundwater on the plant site. In 1981 the level of groundwater contamination was as high as 2,300 parts per billion (ppb) of 2,4-D. Groundwater contamination has been found at the perimeter of the hazardous waste site in the downgradient direction of the groundwater flow.

Remedial Actions at Site:

The Chevron Chemical Company has submitted soil sampling data as well as groundwater monitoring data to the U.S. Environmental Protection Agency (EPA). The company plans to continue quarterly groundwater monitoring at the site. Field work at the site includes twenty-three on-site monitoring wells, five off-site monitoring wells, six off-site soil borings at the suspected arsenic spill site, a surface geophysical survey, and fifty-six on-site soil borings. The contents of an abandoned sewer system at the facility was pumped of its contents in February 1987. Sampling of the runoff collected in the sewer indicated some pesticide and arsenic contamination.

Surface water samples were collected in March 1987 and did not indicate significant levels of contamination. A sample collected from a seep below building D indicated low levels of arsenic and pesticide contamination.

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A supplemental site investigation was conducted by Chevron in 1989 which included on-site and off-site soil sampling. The on-site and off-site sampling conducted in 1989 identified areas of surface soil contamination showing high levels of pesticides and insecticides. Chevron has capped/paved the off-site contaminated loading area and installed an additional off-site deep monitoring well to monitor contaminant migration. Previous remedial actions have included paving and capping contaminated soils on-site to reduce migration of contaminants into groundwater. Currently, quarterly groundwater monitoring is being implemented to see if previous remedial actions will significantly reduce groundwater contamination. The EPA will determine, after six quarters of sampling, whether or not they will require Chevron to take further actions at the site.

Areas of Concern Related to Site:

This site is located in a commercial and industrial area, bordering residential areas with 3,000 people in a one-half mile radius. It is not publicly traveled or considered a public use area. Five private wells have been identified as drawing from the aquifer of concern within a three mile radius. The primary use of groundwater is to process industrial water. The nearest downslope surface water is Fee Fee Creek, which is occasionally used for trapping.

General Geologic and Hydrologic Setting:

The site is underlain by 20 to 30 feet of loess (wind deposited clayey silt) over Pennsylvanian shales or residual clays. Below the shale or clay, at a depth of about 30 to 70 feet, is limestone. The upper surface of the limestone is irregular, but is overlain by Pennsylvanian shale over most of the site. The limestone is part of the shallowest aquifer at the site.

The shallow aquifer is made up primarily of limestone. The lower confining unit at the base of this aquifer is the Maquoketa Shale, at a depth of several hundred feet. Water from deeper horizons of this aquifer may be too saline to be considered potable, but the shallow part of the bedrock aquifer probably produces good water. Yields may be low. Groundwater is not used much in this area due to the presence of public water supplies that obtain the high yields that they need from surface water sources.

Water is perched in the loess but yields are so low that this is not considered an aquifer. This groundwater has been affected by contaminants at the site. Due to the presence of low permeability material beneath the loess, water within the loess is expected to discharge to the surface, or to buried sewer lines downgradient from the site.

Public Drinking Water Advisory:

This area is served by St. Louis County Water Company, which utilizes the Missouri River and Meramec River as sources. Some area residents may have private wells. This site poses no threat to public water supplies.

Health Assessment:

Site investigations have indicated the presence of soil contamination both on and off-site; however, the off-site contamination was found only in the area adjacent to the former arsenic off-loading dock. Since this off-site area is accessible by the general public, potential for human contact is possible, although limited, because the soil in this area is now covered by gravel and vegetation, and traffic is light. The potential for human contact of the contaminated soil down-site is low since the site is fenced and secured, and the entire area is either paved, covered with gravel or grass, or covered with buildings. For these same reasons, the potential for exposure from airborne contaminants is expected to be low.

The potential for off-site migration of contaminants through surface water runoff exists, but the low levels of contaminants found in the runoff water would indicate that the risk from this route of exposure is low.

Initial site investigations indicated the presence of contaminants in groundwater from tests of monitoring wells on the site. More recently, investigations by the EPA have noted that Lindane and other organic chemical contamination was detected in deep monitoring wells off-site. In view of these findings, Chevron has contracted with Woodward-Clyde to investigate the vertical and horizontal extent of Lindane contamination both on-site and off-site. Soil sampling efforts, conducted in 1991, added greatly to the characterization of pesticides and arsenic around the railroad easement adjacent

to the site. Proposals are to place a cap over the known Lindane contaminated areas so that the movement of Lindane into the groundwater is minimized. The contaminants, which have been detected in groundwater either regularly or occasionally, include arsenic, lindane, aldrin, dieldrin, xylenes, and the chlorophenoxy acids. Exposure to the public from groundwater contamination is not expected because: (1) the only private wells in the area are one-half mile away and upgradient from the site, and (2) everyone living downgradient for a distance of at least five miles is provided with public drinking water.

Based on available information, the Missouri Department of Health (DOH) feels that the potential for exposure to the general public and to workers on the site is low under present use conditions. However, if conditions at the site change in the future allowing public accessibility to the contaminants, exposure is likely.

For information regarding health related issues, please contact the Missouri Department of Health, P.O. Box 570, Jefferson City, MO 65102, (573) 751-6404.